

PATENT APP. NO. 10/673,344
ATTY. DOCKET NO. 65406.000717
RESPONSE TO 5/25/2005 OFFICE ACTION

II. AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims

1. (original) A method for incorporating graphics into absorbent articles, the method comprising:

providing a moving substrate to a print cylinder;

sensing a line speed reference signal from a line speed target machinery component;

rotating the print cylinder at a predetermined speed, based on the line speed reference signal, to thereby print a series of graphics on the moving substrate at a predetermined distance frequency;

sensing a phase difference signal from a phase target machinery component;

setting an actual print cylinder phase angle, based on the phase difference signal, to approximate a predetermined phase angle to thereby position the series of graphics on the moving substrate at a series of desired graphics locations.

2. (original) The method of claim 1, wherein the substrate comprises a backsheet web.

3. (original) The method of claim 2, wherein the method further comprises:

providing a supply of absorbent pads;

providing a topsheet web;

joining the topsheet web to the backsheet web with the absorbent pads located therebetween to thereby form an absorbent core assembly;

cutting the absorbent core assembly at a series of cuts with a cutter;

wherein the phase target machinery component comprises the cutter.

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4. (original) The method of claim 1, wherein the line speed target machinery component comprises a main drive.
5. (original) The method of claim 1, wherein the line speed target machinery component comprises a cutter.
6. (original) The method of claim 1, wherein the phase target machinery component comprises a cutter.
7. (original) The method of claim 1, wherein the line speed target machinery component and the phase target machinery component comprise different machinery components.
8. (original) The method of claim 1, wherein the line speed target machinery component and the phase target machinery component comprise the same machinery component.
9. (original) The method of claim 1, wherein the line speed reference signal is generated by an encoder.
10. (original) The method of claim 1, wherein the phase difference signal is generated by an inductance sensor.
11. (original) The method of claim 1, wherein the series of graphics comprises a series of wetness indicators.
12. (original) The method of claim 1, wherein the series of graphics comprises a series of combined wetness indicators and decorative graphics.
13. (original) The method of claim 1, wherein the print cylinder comprises a flexographic print cylinder.
14. (original) The method of claim 1, wherein the method further comprises:
providing the moving substrate to a second print cylinder;

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rotating the second print cylinder at the predetermined speed, to thereby print a second series of graphics on the moving substrate at the predetermined distance frequency.

15. (original) The method of claim 14, wherein the series of graphics comprises a series of wetness indicators and the second series of graphics comprises a series of decorative graphics.

16. (original) The method of claim 1, wherein the method further comprises:
detecting a shutdown mode from the line speed reference signal;
disengaging the print cylinder from the substrate; and
rotating the print cylinder at an idle speed.

17. (original) The method of claim 1, wherein the method further comprises:
detecting a startup mode from the line speed reference signal;
accelerating the print cylinder from an idle speed to the predetermined speed;
and
engaging the print cylinder with the moving substrate.

Claims 18 - 36 (canceled)

37. (original) A method for incorporating graphics into absorbent articles, the method comprising:

providing a moving substrate to a graphic applicator;
sensing a line speed reference signal from a line speed target machinery component;
rotating the graphic applicator at a predetermined speed, based on the line speed reference signal, to thereby apply a series of graphics on the moving substrate at a predetermined distance frequency;

sensing a phase difference signal from a phase target machinery component;

setting an actual graphic applicator phase angle, based on the phase difference signal, to approximate a predetermined phase angle to thereby position the series of graphics on the moving substrate at a series of desired graphics locations.

38. (original) The method of claim 37, wherein the substrate comprises a backsheet web.

39. (original) The method of claim 38, wherein the method further comprises:

providing a supply of absorbent pads;

providing a topsheet web;

joining the topsheet web to the backsheet web with the absorbent pads located therebetween to thereby form an absorbent core assembly;

cutting the absorbent core assembly at a series of cuts with a cutter;

wherein the phase target machinery component comprises the cutter.

40. (original) The method of claim 37, wherein the line speed target machinery component comprises a main drive.

41. (original) The method of claim 37, wherein the line speed target machinery component comprises a cutter.

42. (original) The method of claim 37, wherein the phase target machinery component comprises a cutter.

43. (original) The method of claim 37, wherein the line speed target machinery component and the phase target machinery component comprise different machinery components.

44. (original) The method of claim 37, wherein the line speed target machinery component and the phase target machinery component comprise the same machinery component.

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45. (original) The method of claim 37, wherein the line speed reference signal is generated by an encoder.

46. (original) The method of claim 37, wherein the phase difference signal is generated by an inductance sensor.

47. (original) The method of claim 37, wherein the series of graphics comprises a series of wetness indicators.

48. (original) The method of claim 37, wherein the series of graphics comprises a series of combined wetness indicators and decorative graphics.

49. (original) The method of claim 37, wherein the graphic applicator is a cut-and-space device.

50. (original) The method of claim 37, wherein the method further comprises:
detecting a shutdown mode from the line speed reference signal; and
disengaging the graphic applicator from the substrate.

51. (original) The method of claim 37, wherein the method further comprises:
detecting a startup mode from the line speed reference signal;
accelerating the graphic applicator to the predetermined speed; and
engaging the graphic applicator with the moving substrate.

Claims 52 - 68 (canceled)